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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,156	10/05/2000	Stephen D. MacArthur	07072-115001	9150

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EXAMINER

CHANKONG, DOHM

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/680,156	<b>Applicant(s)</b> MACARTHUR ET AL.	
	<b>Examiner</b> Dohm Chankong	<b>Art Unit</b> 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/8/04, 12/16/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1> Applicant's remarks have been received. Claims 1-5 are presented for further examination.

#### *Terminal Disclaimer*

2> The terminal disclaimer filed on 12.8.2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of patent 6.061.274 has been reviewed and is accepted. The terminal disclaimer has been recorded.

3> The terminal disclaimer filed on 12.8.2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of application number 09/540.825 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### *Response to Arguments*

4> In view of the terminal disclaimers filed by Applicant, the obviousness double patenting rejection of claims 1-5 have been withdrawn.

5> Applicant's arguments filed 12.8.2004 concerning the rejection of claims 1-5 as being unpatentable over Thibault et al, U.S Patent No. 6.061.274 in view of Noguchi, in further view of Hashemi, U.S Patent No. 5,574.865, have been fully considered and are persuasive. These rejections are withdrawn.

6> Applicant's arguments filed 12.8.2004 concerning the rejection of claims 1-5 as being unpatentable over Nakayama et al, U.S Patent No. 5,920,893 in view of Noguchi, in further view of Hashemi, U.S Patent No. 5,574,865, have been fully considered but they are not persuasive.

Applicant is arguing that the prior art references do not disclose having "messages by-pass the transfer section". However, the prior art reference used to disclose this functionality (Noguchi) is clearly directed towards the stated limitation. Noguchi refers to utilizing separate message bus and packet bus [column 3 «lines 44-48» | claim 2]. Necessarily, messages will go through the message bus, and packet data will go through the packet bus. Therefore, Noguchi clearly discloses that the messages by-pass the transfer (packet) section, with the packet bus being analogous to the transfer section; the messages will bypass the packet bus because there is no reason for messages to go through the packet bus since it has its own means for transmission.

Noguchi states that the potential advantage of utilizing separate buses for messages and packet data relates to cutting down the switching time (if there was only one bus) and thereby increasing the efficiency of transmitting data and messages through the network [column 7 «lines 39-43»].

Examiner believes he has addressed all of Applicant's concerns from his remarks, dated 12.8.2004.

For the reasons stated above, Examiner believes the rejections of claims under 35 U.S.C § 103(a) are proper.

*Claim Rejections - 35 USC § 103*

7> The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8> Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al ["Nakayama"], U.S. Patent No. 5,920,893 in view of Noguchi, U.S. Patent No. 4,977,556, in further view of Hashemi, U.S. Patent No. 5,574,865 ["Hashemi"].

9> Nakayama was cited by Examiner in previous Office Action, dated 12/18/03.

10> As to claim 1, Nakayama teaches a method for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising: a plurality of first directors coupled to the host computer/server; a plurality of second directors coupled to the bank of disk drives; a data transfer section couple to the plurality of first directors and second directors and a messaging network coupled to the plurality of first directors and the plurality of second directors, such first and second directors controlling data transfer between the host computer and the bank of disk drives in response to messages passing between the directors through the messaging network as such data passes through the data transfer section, such method comprising:

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preparing in a transmitting one of the directors, one of the messages to be sent to a receiving one, or ones of the directors;

receiving in one of the receiving one or ones of the directors the transmitted one of the messages (Figure 3, column 2, lines 27-35, column 4, line 42 to column 5, line 13 and column 6, lines 45-50).

Nakayama does teach transmitting such one of the messages to said receiving one, or ones, of the directors through the messaging network but not that such messages by-pass the data transfer section. He also does not teach:

determining in such receiving one, or ones, the receiving directors whether the received one of the messages from a proper, or an improper transmitting one of the directors;

rejecting the one of the messages if it is from an improper transmitting one of the directors and further processing such one of the messages if it is from a proper one of the transmitting directors

11> Noguchi teaches a transmitting one of the messages through a messaging network with such messages by-passing a data transfer section [column 7 <lines 31-34 and lines 41-43>]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Noguchi's two independent bus design, one for the transfer of data the other for the transfer of messages, into Nakayama's data transfer system to cut down on switching time and transmission delay time through the bus.

12> Hashemi teaches a method for determining in such receiving one, or ones, the receiving directors whether the received one of the messages from a proper, or an improper transmitting one of the directors [column 2 <lines 56-64> | column 3 <lines 24-31> | column 5 <lines 29-35 and 52-57> where: digital modules are comparable to receiving and transmitting directors]; and

rejecting the one of the messages if it is from an improper transmitting one of the directors and further processing such one of the messages if it is from a proper one of the transmitting directors [column 2 <lines 56-64> | column 3 <lines 24-31> | column 5 <lines 29-35 and 52-57> where: digital modules are comparable to receiving and transmitting directors].

It would have been obvious to one of ordinary skill in the art to incorporate Hashemi's data protection methods into Nakayama's directors and data transfer system. One would have been motivated to implement Hashemi's source validation and message verification methods into Nakayama to prevent director's from receiving corrupt data from improper sources.

13> As to claim 2, Nakayama does not explicitly teach a method including having the receiving, one or ones, of the directors send an acknowledge receipt of the one of the messages to said transmitting one of the transmitting such one of the messages.

14> It would have been obvious to modify Nakayama's messaging network so that it included acknowledgement functionality between the first and second level directors as such a modification is well known in the art, and therefore involves only routine skill in the art.

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15> As to claim 3, Nakayama discloses a method for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising: a plurality of first directors coupled to the host computer/server; a plurality of second directors coupled to the bank of disk drives [abstract | Figure 1], such method comprising:

passing data between the plurality of first directors and second directors through a cache memory coupled to the plurality of first directors and second directors [Figure 3 <items 305, 306, 309, 310, 311> | column 4 <lines 61-63>];

passing messages through a messaging network coupled to the plurality of first directors and the plurality of second directors, such first and second directors controlling data transfer between the host computer and the bank of disk drives in response to the messages passing between the directors through the messaging network as such data passes through cache memory [column 3 <lines 48-62> | column 4 <lines 2-25 and lines 52-65>], such memory passing comprising:

preparing in a transmitting one of the directors, one of the messages to be sent to a receiving one, or ones, of the directors [column 4 <lines 2-7>];

receiving in one of the receiving one or ones of the directors the transmitted one of the messages [column 6 <lines 7-11>];

Nakayama does not disclose that the message network and data transfer section are



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separate and consequently does not disclose transmitting such one of the messages to receiving one, or ones, of the directors through the messaging network with such one of the messages by-passing the data transfer section. He also does not disclose:

determining in receiving one, or ones, the receiving directors whether the received one of the messages is from a proper, or an improper transmitting one of the directors;

rejecting such one of the transmitted messages if it is from an improper transmitting one of the directors and further processing such message if it is from a proper one of the transmitting directors.

16> Noguchi teaches a transmitting one of the messages through a messaging network with such messages by-passing a data transfer section [column 7 <lines 31-34 and lines 41-43>]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Noguchi's two independent bus design, one for the transfer of data the other for the transfer of messages, into Nakayama's data transfer system to cut down on switching time and transmission delay time through the bus. One would have motivated to apply this implementation in Nakayama as he suggests computers attached to different buses for the transmission of different types of data [column 4 <lines 56-60>].

17> Hashemi teaches a method for determining in such receiving one, or ones, the

18> receiving directors whether the received one of the messages from a proper, or an improper transmitting one of the directors [column 2 <lines 56-64> | column 3 <lines 24-31> |

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column 5 <lines 29-35 and 52-57> where: digital modules are comparable to receiving and transmitting directors]; and

rejecting the one of the messages if it is from an improper transmitting one of the directors and further processing such one of the messages if it is from a proper one of the transmitting directors [column 2 <lines 56-64> | column 3 <lines 24-31> | column 5 <lines 29-35 and 52-57> where: digital modules are comparable to receiving and transmitting directors].

It would have been obvious to one of ordinary skill in the art to incorporate Hashemi's data protection methods into Nakayama's directors and data transfer system. One would have been motivated to implement Hashemi's source validation and message verification methods into Nakayama to prevent director's from receiving corrupt data from improper sources.

19> As to claim 4, Nakayama does not specifically disclose a method wherein the messages are transmitted and received as packets.

20> Noguchi discloses the method of claim 1 wherein the messages are transmitted and received as packets [column 7 <lines 20-44> (Examiner's note: Noguchi teaches two buses, one for packet data and the second for non-packet data; therefore, messages passing through the first bus are packetized and passed through as packets onward to the directors. For this particular embodiment of Noguchi's invention, and since Applicant does not specifically claim that the data transfer section must deal exclusively with either packet data or non packet data, then, Noguchi's second bus for non-packets is equivalent in functionality to the

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“data transfer section” claimed in claim 1. Noguchi’s first bus for packet data is equivalent to the “message network”).] It is well known in the art that messages are transmitted and received over networks as packets and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Nakayama’s data as packets per Noguchi’s teachings. .

21> As to claim 5, Nakayama does not specifically disclose a method wherein the messages are transmitted and received as packets.

22> As to claim 5, Noguchi discloses the method of claim 3 wherein the messages are transmitted and received as packets [column 7 <lines 20-44> (Examiner’s note: Noguchi teaches two buses, one for packet data and the second for non-packet data; therefore, messages passing through the first bus are packetized and passed through as packets onward to the directors. For this particular embodiment of Noguchi’s invention, and since Applicant does not specifically claim that the data transfer section must deal exclusively with either packet data or non packet data, then, Noguchi’s second bus for non-packets is equivalent in functionality to the “data transfer section” claimed in claim 1. Noguchi’s first bus for packet data is equivalent to the “message network”).]. It is well known in the art that messages are transmitted and received over networks as packets and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Nakayama’s data as packets per Noguchi’s teachings.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC



Dung C. Dinh  
Primary Examiner